

**REMARKS**

Claims 3-32, 34, 36, 54, 55 and 57-59 are all the claims pending in the application.

This Amendment responds to various points made in the Examiner's Rinal Rejection of September 4, 2007, and places the application in better condition for continued examination through the RCE process initiated herewith, by clarifying various dependent claims, and canceling claim 33 in favor of a revised version of claim 31.

The Examiner rejected claims 30, 54 and 57 over the combination of DiGiovanni and Swaminathan. Applicant respectfully disagrees. The references, taken alone or in combination, do not teach stabilizing a repetition rate of a short pulse fiber laser by controlling the temperature of the fiber.

The Examiner stated that DiGiovanni teaches a short pulse fiber laser with a repetition rate, citing column 3, line 27 and column 4, lines 63-65. The Examiner's interpretation of these passages is incorrect.

Column 3, line 27, cited by the Examiner, relates to construction of a fiber laser. The cited portion and its corresponding paragraph discusses incorporating a DBR (which forms a cavity mirror) and joining it to a main cavity section of a fiber laser. This is not a disclosure of a fiber laser having a repetition rate.

Column 4, lines 63-65, also cited by the Examiner, and the associated paragraph (column 4, line 54 - column 5, line 2) also relates to construction of the laser, and again to the technique of fabricating the DBRs. Applicant again submits that the Examiner mistakenly cites this portion of DiGiovanni to support a teaching of a short pulse fiber laser (i.e., having a repetition rate).

The cited section actually refers to use of an excimer pumped, frequency doubled tunable dye laser, which is used to expose the “under construction” fiber laser to UV radiation, thereby forming DBRs within the fiber. The pulse characteristics (20 pulses/second) referred to in this section are those of the *excimer-pumped tunable dye laser*, not the *fiber laser*. The dye laser modifies a physical property (index of refraction) of the fiber medium as part of fiber laser construction. The pulse energy and repetition rate of the excimer pump source are unrelated the operational characteristics of the fiber laser once it is constructed. Importantly, neither the excimer laser or the dye laser of which it is a part are fiber lasers, and the former is only used during the construction phase of the fiber laser. Once the fiber laser is constructed, the excimer-pumped dye laser has no further role to play in the DiGiovanni invention. The fiber laser, once it is constructed, is not a pulse laser having a repetition rate. It is a CW laser which has no repetition rate.

The Examiner cited the abstract of Swaminathan as a teaching of a temperature controlled enclosure. Applicant submits that Swaminathan solves a non-analogous problem of cooling a telecom DFB laser (e.g.: a laser chip, see column 1) having temperature variations and a corresponding spectral shift. The output of the DFB laser device may be a modulated beam that is directed into an optical fiber. As noted in applicant’s previous reply, the chip laser is neither a fiber laser nor a pulsed laser. There is no disclosure of a repetition rate, much less a technique for stabilizing same. Signal variations are controlled to within 1 dB, but that relates to amplitude variations, not a repetition rate.

Applicant would point out again that Swaminathan only envisions temperature control within a 40 degree C (105 degree F) band, which is not sufficient for stabilization of any reasonably temperature sensitive laser system. Moreover, it borders on the absurd to assert that a 105 degree allowable temperature shift qualifies as "isolation ... from an external environment" as claimed. A 105 degree temperature band is *greater* than the *external* environmental temperature shift range at most locations on earth.

Applicant thus once again submits from the above that the references do not disclose or teach the elements of claims 30, 54 or 57 and that the Examiner has not made a prima-facie case of obviousness. The dependent claims are allowable at least by virtue of their dependency, and further, owing to the fact that no reference of record discloses an acoustically damped device of any sort for supporting a fiber amplifier to support operational stabilization thereof.

Accordingly and in view of the foregoing, favorable reconsideration of the rejections of record is respectfully requested.

Respectfully submitted,

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

/Richard Turner/  
Richard C. Turner  
Registration No. 29,710

Date: January 31, 2008